

SEGA MASTER SYSTEM

SERVICE MANUAL

SEGA ENTERPRISES, LTD.

SEGA MASTER SYSTEM

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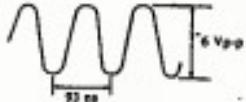
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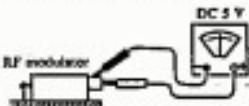
Service Procedures

1. The system is divided into four blocks:
(1) Main unit (Power base); (2) Software; (3) Auto switchboxes and cables; (4) Controller related
2. Use a tester to check for continuity and confirm that there are no short circuits between the power and ground.
3. Check by individual block:
Set up a complete, well-operating system as a control; one by one, connect the blocks of the system to be tested to the control system and determine whether the system operates properly with the exchanged blocks.
4. Service by individual block:
When the source of the malfunction has been narrowed down to the relevant block, service that block or blocks in accordance with the appropriate service procedures.

1. Main Unit (Power Base)

(A) Servicing the main unit (Power Base)

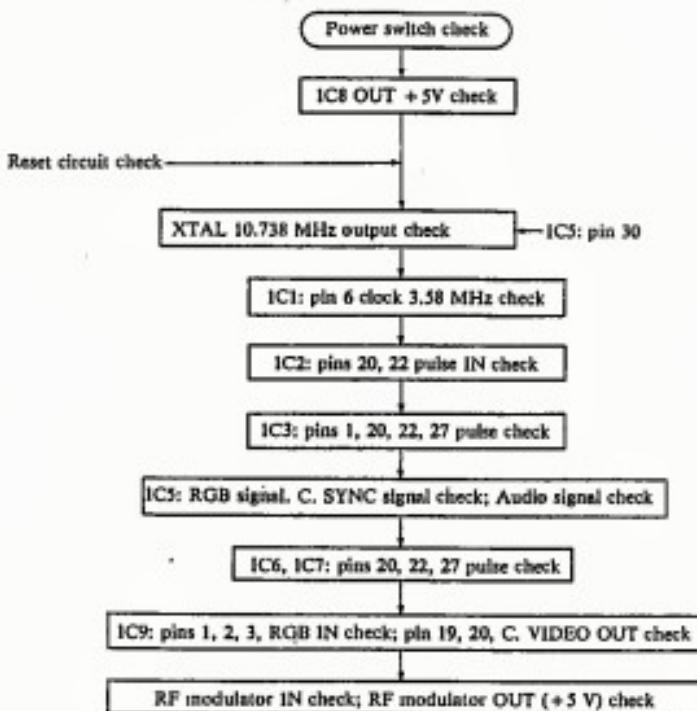
Parts Test Procedure	Fault Location	Symptoms
1. ICB(7805) power check. (1) IN DC 9 V. (2) OUT DC 5 V.	1. ICB (7805) faulty. 2. Soldering faulty. 3. Short circuit. 4. Printed circuit board (PCB) pattern is cut. 5. POWER switch faulty. 6. Heat sink attachment faulty.	1. LED doesn't light. 2. No picture.
2. Power check of ICs. (1) Is Vcc 5 V power present?	1. PCB pattern is cut. 2. Soldering faulty.	1. No picture. 2. Screen is black.
3. Is reset circuit operating? (1) Use meter to measure voltage of JR. Should be 0-3.6 V (slowly rises).	1. Capacitor (C131) faulty. 2. Soldering faulty. 3. Resistor (R130) faulty.	1. No picture. 2. Screen is black.
4. Is oscillator circuit operating? (1) Pin 30 of IC5: AC 6 Vp-p; 10.738635 MHz \pm 100 Hz.  (2) Pin 34 of IC5 clock: 3.579545 MHz \pm 30 Hz. 	1. XTAL(10M) faulty. 2. C107, C108 faulty. 3. Soldering faulty. 4. PCB pattern is cut. 5. IC5 faulty. 6. Frequency exceeds allowable deviation.	1. No picture. 2. Color may be monochromatic.
5. Check connectors. (1) Make visual check of connector pins. (2) Check for faulty soldering connections.	1. Broken from excessive weight. 2. Soldering faulty. 3. PCB pattern is cut. 4. Terminal plugs are dirty.	1. No picture. 2. Picture is monochromatic. 3. Characters are unnatural. 4. Controls do not respond properly.

Parts Test Procedure	Fault Location	Symptoms
6. Check button switches. (1)Check power button switch. (2)Check reset button switch. (3)Check pause button switch.	1. Switch is loose. 2. Soldering faulty 3. PCB pattern is cut. 4. Switch is short-circuited. 1. Soldering faulty. 2. PCB pattern is cut. 3. Blade is not parallel with circuit board. 4. Switch is short-circuited.	1. No power voltage present. 2. LED doesn't light. 3. No picture. 4. Reset occurs spontaneously. 5. Characters suddenly appear abnormal. 1. Reset doesn't respond properly. 2. Pause doesn't operate properly.
7. Check RF modulator. (1)Is OUT +5 V present? 	1. PCB pattern is cut. 2. Soldering faulty. 3. RF modulator is faulty.	1. No picture. 2. Picture appears dirty. 3. No sound. 4. Much audio noise.
(2)Check channel selector: Are CH3 and CH4 okay?	1. RF modulator is faulty.	1. CH3 appears but not CH4. 2. CH4 appears but not CH3.
8. Check CON 1. (1)R23 DC 1.3 V (VIDEO) without load. (2)6.5.8 DC 1.9 V (RGB) without load.	1. Various problems are conceivable. In event system is not operating at all. 2. In event IC9 is faulty.	1. No picture.

(B) Possible symptoms for each fault location

Fault Location (Contents of malfunction)	Symptom
1. When IC1 (CPU) is faulty.	1. System doesn't operate at all. No picture at all.
2. When IC2 (OS ROM) is faulty.	1. Since this is the program which operates the system, no picture will appear. 2. Depending on the case, a mosaic pattern may appear.
3. When IC3 RAM is faulty.	1. Since this is the unit that temporarily records data, no picture will appear. 2. Depending on the case, a picture may appear, but it is easily distorted.
4. When IC4 is faulty.	1. Since this IC emits several control signals, no picture will appear. 2. Controller may not respond properly. 3. Pause, reset may not respond properly.
5. When IC5 is faulty.	1. If no oscillation is present, clock 3.58 MHz is not produced, with result that system does not operate at all; no picture will appear. 2. In addition, several control signals are involved; if fault is present, system will not operate and no picture will appear. 3. Even if a picture appears, characters may be distorted. 4. Colors may be improper. 5. Sound may appear alone without picture. 6. Picture may appear alone without sound.
6. When IC6, IC7 are faulty.	1. Since these parts are responsible for temporarily storing color data, picture may not appear. 2. Even if picture appears, colors may be improper. 3. Characters may be distorted. 4. Picture may be move sluggishly or jerkily.
7. When IC8 is faulty.	1. Since this is +5 V stabilized current, if malfunction is present, uniform +5 V is not present; system will not operate and no picture will appear. 2. LED doesn't light.
8. When IC9 is faulty.	1. Since this part converts the RGB signal to composite mode, a malfunction will result in no picture. 2. Even if a picture appears, color may be abnormal.

(C) Flow chart for troubleshooting fault locations



(D) Troubleshooting guide**a) In event controls do not respond normally**

Symptom(s)	Fault Location(s)
1. Game doesn't start. 2. Buttons may not respond when pressed. 3. Absolutely no response at all.	1. CON5 or CON6 faulty (disconnection). 2. Soldering faulty. 3. PCB pattern is cut. 4. IC is faulty. 5. EMI filter is faulty. 6. Resistor 330 ohm is faulty. 7. Check for continuity between CON5 and CON6 terminals and terminals of IC4.
4. Demonstration screen doesn't appear. 5. Switch stays depressed in middle of game. 6. Switch remains fixed in one direction. 7. Starts by itself.	1. CON5 or CON6 is faulty (short-circuited). 2. Soldering is short-circuited. 3. PCB pattern is short-circuited. 4. IC4 is faulty.

b) In event picture appears alone without sound

Service Procedures	Fault Location
<ol style="list-style-type: none">1. Check whether audio signal is present between pins 1 and 2 of CN1. When a mini-speaker or earphone is connected, sound can be heard.2. Is audio signal output from pin 10 of IC5?<ol style="list-style-type: none">1) MAX 300 mVp-p2) 20 Hz—20 kHz	<ol style="list-style-type: none">1. CN1 is faulty.2. Soldering faulty.3. PCB pattern is cut.4. Q48, C49, R47 are faulty.5. R46 is faulty.6. IC5 is faulty.7. RF modulator is faulty.

c) In event picture is not present

Service Procedures	Fault Location
<ol style="list-style-type: none">1. Is video signal present between pins 3 and 2 of CN1?2. Is video signal present at pin 3 of RF modulator?3. Is video signal output from pins 19 and 20 of IC9?4. Is RGB signal output from pins 23, 22, and 21 of IC9?5. Is RGB signal present at pins 1, 2, and 3 of IC9?	<ol style="list-style-type: none">1. C28, R27 is absent or faulty.2. CN1 is faulty.3. Soldering faulty.4. PCB pattern is cut.5. RF modulator is faulty (when picture is present on RF)6. IC9 is faulty.7. Peripheral parts around IC9 are faulty.

2. Software

Software (Card or Cartridge) Malfunctions

Symptoms	Fault Location
1. No picture. Picture remains monochromatic. Picture is mosaic pattern.	1. Connector (50 pin) is dirty, disconnected, or other connection fault. 2. Soldering faulty. 3. Short-circuit. 4. Capacitor is missing or faulty. 5. IC is damaged from overheating or static electricity.
2. Characters are disrupted suddenly in middle of game. Reset occurs spontaneously in middle of game. Other abnormal symptoms appear in middle of game.	1. Connection fault at connector (50 pins). 2. Soldering faulty. 3. Capacitor is missing or faulty. 4. IC runaway overheating. 5. In the case of number 4 above, the problem may be rectified by adding a capacitor 100PF—180PF at A13 (address 13). 6. IC is faulty.

3. Auto Switchboxes and Cables

a) Auto switchbox

Symptoms	Fault Location
1. No picture. Game picture doesn't appear. TV picture doesn't appear.	1. Cable is cut or shorted. 2. Plug is faulty. 3. Soldering is faulty on cable connection terminal. 4. PCB pattern is broken or interrupted. 5. Auto-switcher unit is faulty.
2. Sound is bad. Much audio noise.	1. Cable is cracked. 2. Soldering faulty. 3. Plug connection is faulty. 4. Auto switcher is faulty (adjustment faulty).

b) Video Cable

Symptoms	Fault Location
1. No picture. No sound.	1. Cable or plug is faulty; replace all.

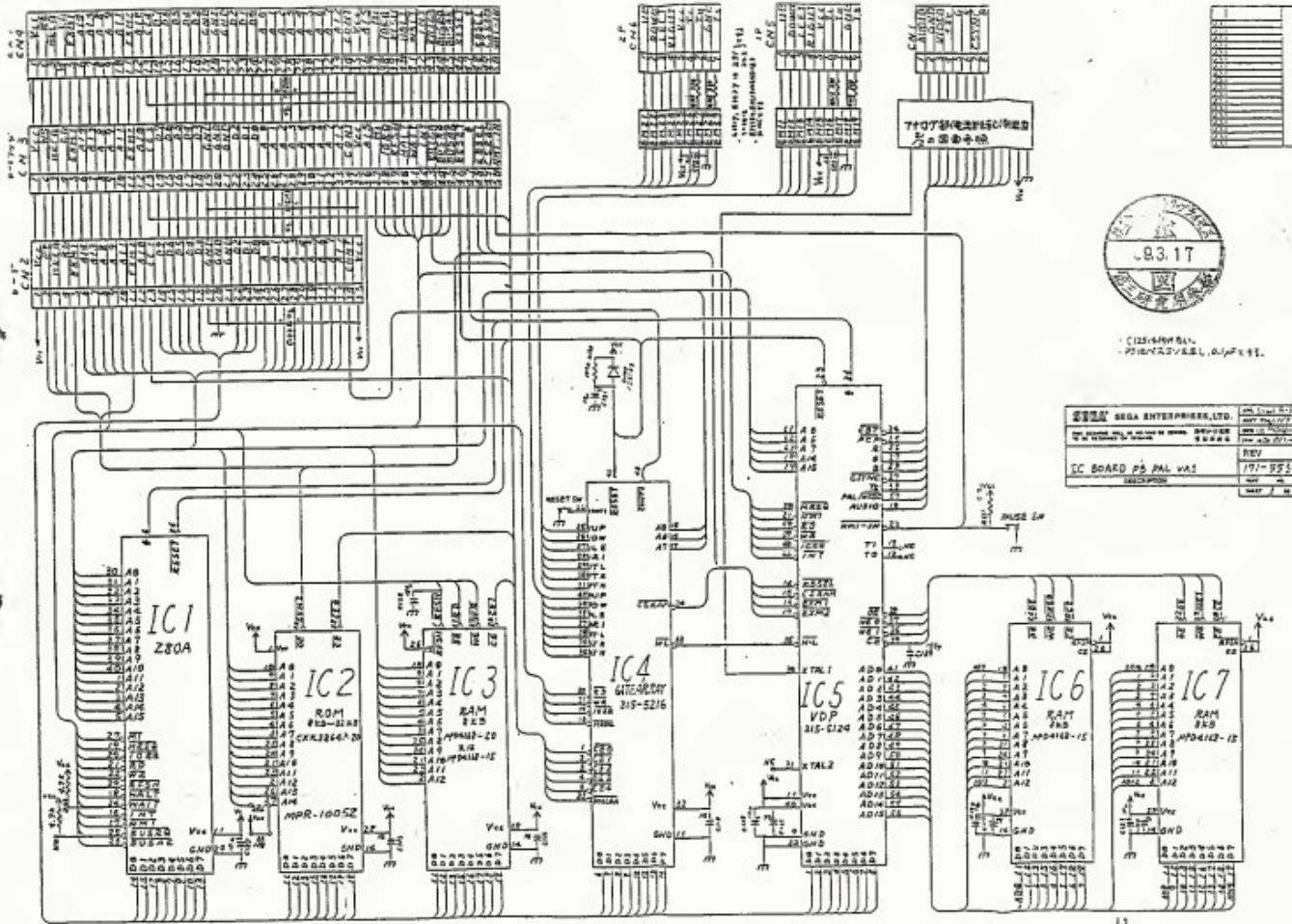
c) AC adaptor

Symptoms	Fault Location
1. No picture. 2. LED doesn't light. 3. $13\text{ V} \pm 1\text{ V}$ not produced (without load)	1. Replace all.

4. Controller Related

Control pads

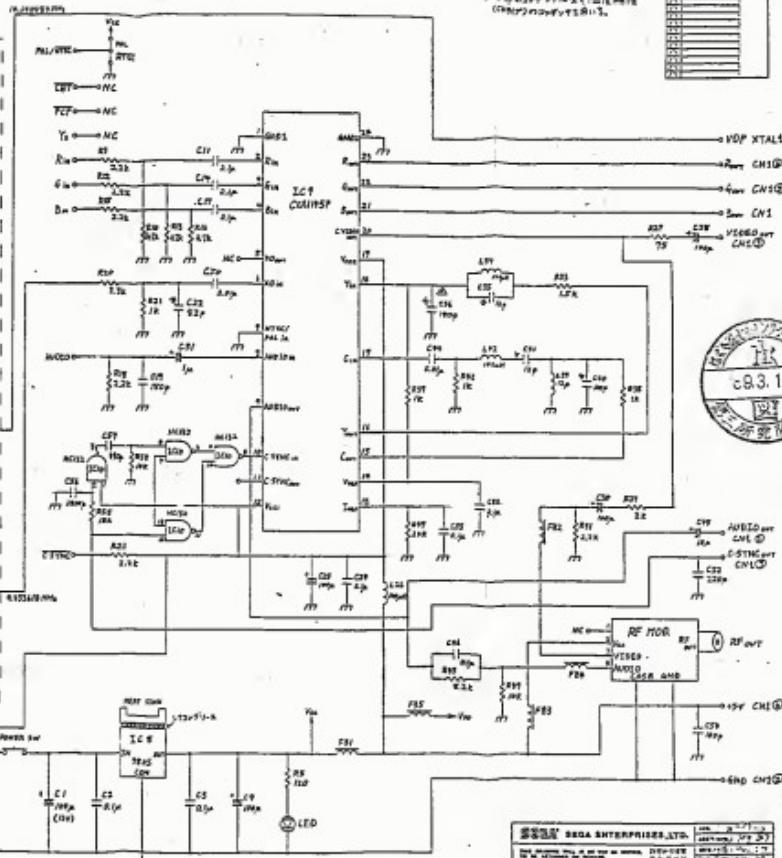
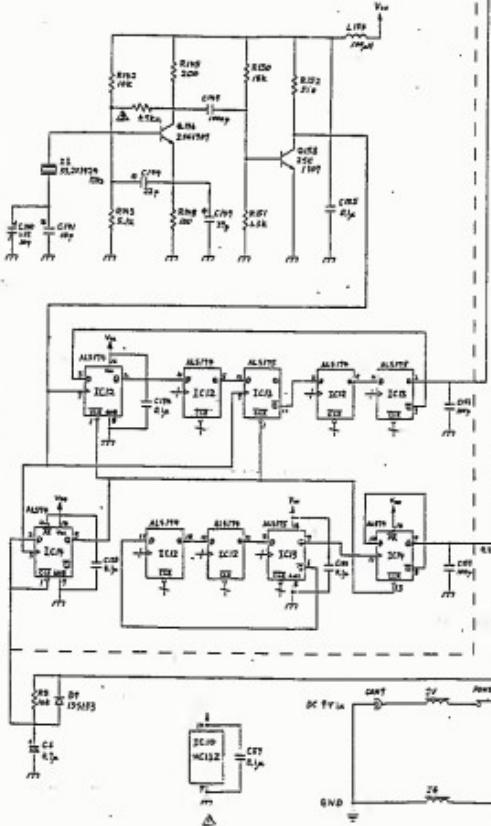
Symptoms	Fault Location
1. Controller does not operate. Doesn't move as it should. Gaze doesn't start.	1. Cable is cut. 2. Faulty connection at connector. 3. PCB pattern is cut. 4. Conductive rubber is faulty. 5. Soldering faulty.
2. Moves spontaneously by itself. Switch remains depressed in one direction.	1. Cable is shorted. 2. Solder is greasy. 3. Conductive rubber is stuck.



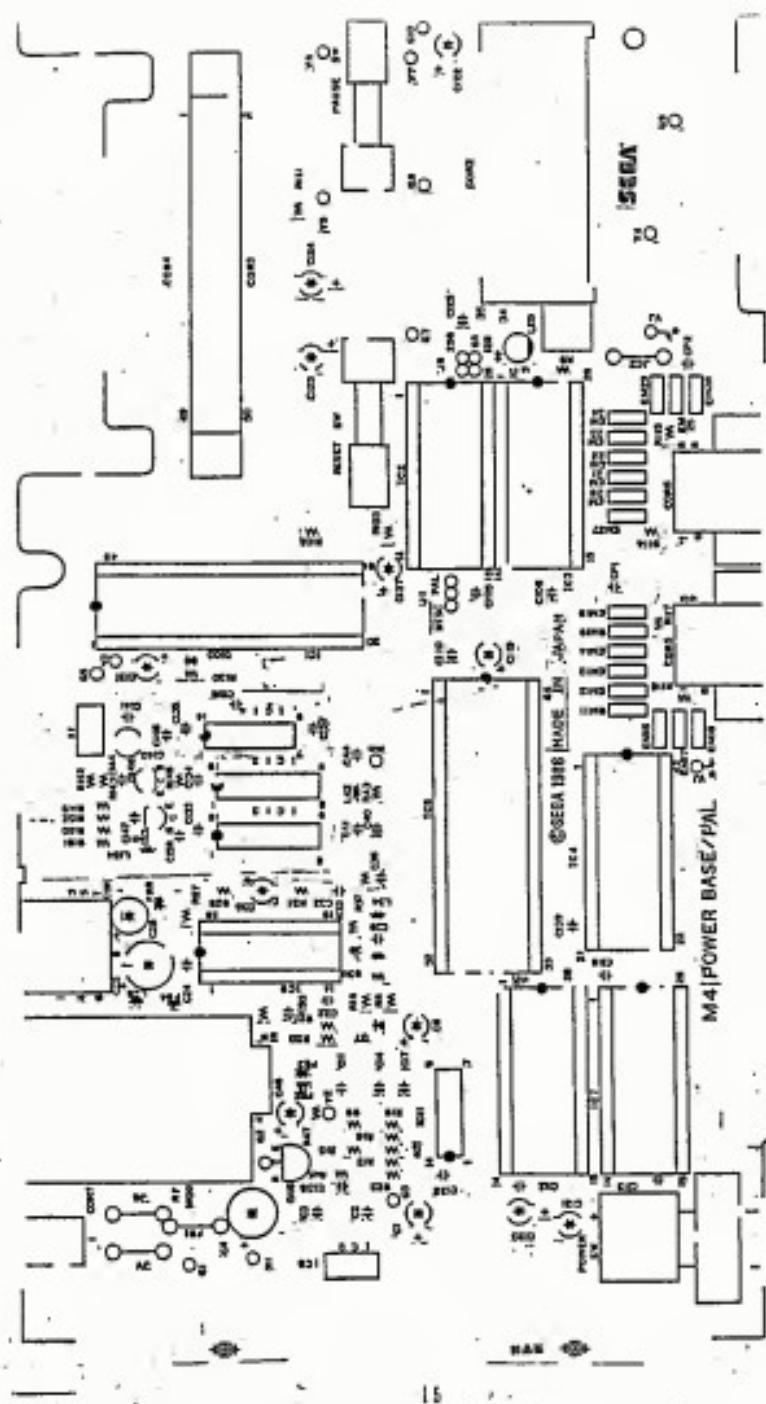
・C125(4-PIN)をいい、



SEGA SEGA ENTERPRISES, LTD.	APR 1 1991 7:27 AM
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TELEPHONE: (301) 961-1600 FAX: (301) 961-1601	APR 1 1991 7:27 AM
IC BOARD PS PAL VHS	REV 191-5534
DESCRIPTION	APR 1 1991 7:27 AM

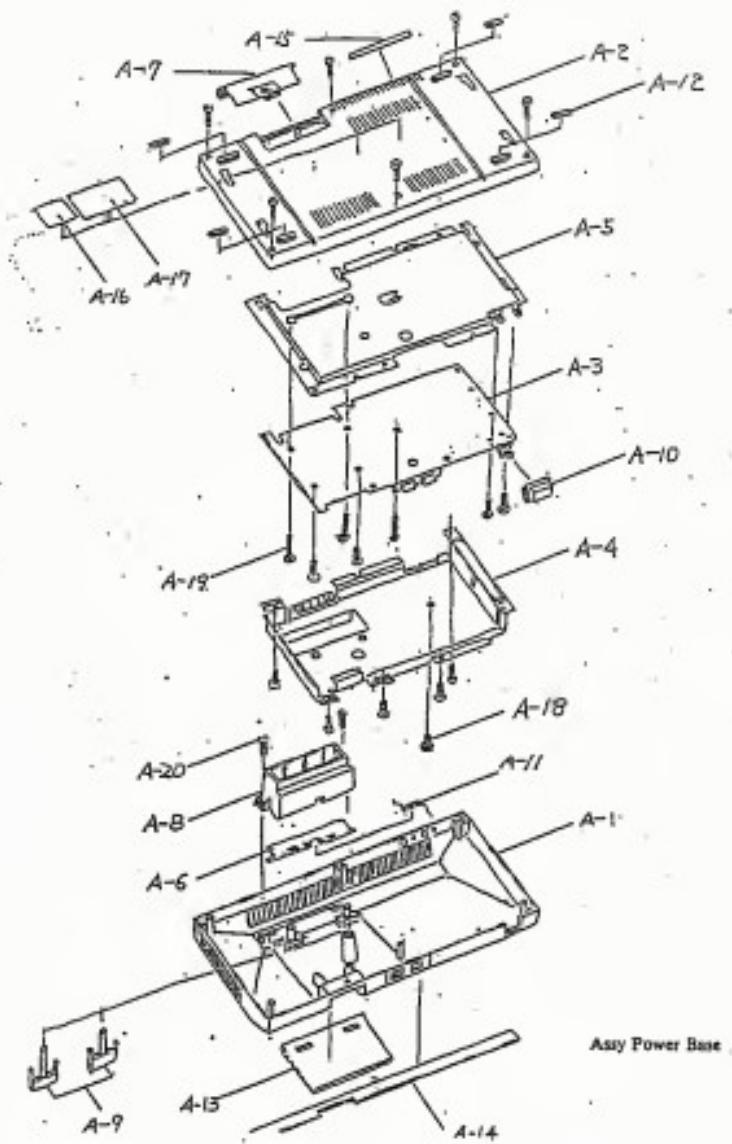


SEGA ENTERPRISES, LTD.	REV
IC BOARD PS PAL VHS	1/91-5539



PARTS LIST

1. Master System (Power Base)



Asy Power Base

Description No.	Part No.	Description	Note	Q'ty
	610-0034-03	Asy Power Base AS	(Australia)	1
	610-0034-05	Asy Power Base UK	(United Kingdom)	1
	610-0034-06	Asy Power Base Spain		1
	610-0034-11	Asy Power Base HK	(Hong Kong)	1
	610-0034-13	Asy Power Base ITA	(Italy)	1
	610-0034-18	Asy Power Base WG	(West Germany)	1
	610-0034-20	Asy Power Base Holland		1
A-1	253-6007	Top Case PB		1
A-2	253-6014	Bottom Case PB		1
	837-6097	IC Board PB PAL-G		1
A-3	837-6118	IC Board PB PAL-B	(AS)	1
	837-6135	IC Board PB PAL-I	(UK HK)	1
A-4	250-5023	Shield Plate PB Top		1
A-5	250-5022	Shield Plate PB Bottom	(WG Only)	1
A-6	253-6009	Lid A		1
A-7	253-6015	Lid B		1
A-8	253-6010	Cover PB		1
A-9	253-6008	Button PB		1
A-10	253-6013	Power Button PB		1
A-11	125-5016	Tension Spring		1
A-12	601-5514	Rubber Foot		1
A-13	253-6011	Panel PB		1
A-14	253-6012	Inst Panel PB		1
	421-6419	Seal RF		1
A-15	421-6419-18	Seal RF Ger	(AS) (UK Spain HK ITA WG Holland)	1
	421-6394-03	Seal Ser No AS		1
	421-6394-05	Seal Ser No UK		1
	421-6394-06	Seal Ser No Spain		1
A-16	421-6394-11	Seal Ser No HK		1
	421-6394-13	Seal Ser No ITA		1
	421-6394-18	Seal Ser No Ger		1
	421-6394-20	Seal Ser No Holland		1
A-17	421-6429	Seal RFI Mark		1
A-18	000-0306-S	M Scr PH 3 x 6 W/S		1
A-19	029-0072	Tap Scr PH 3 x 16 Blk		1
A-20	012-0312	Tap Scr PH 3 x 12		1

2. PC Main M4

MARK 4 PART LIST PAL TYPE

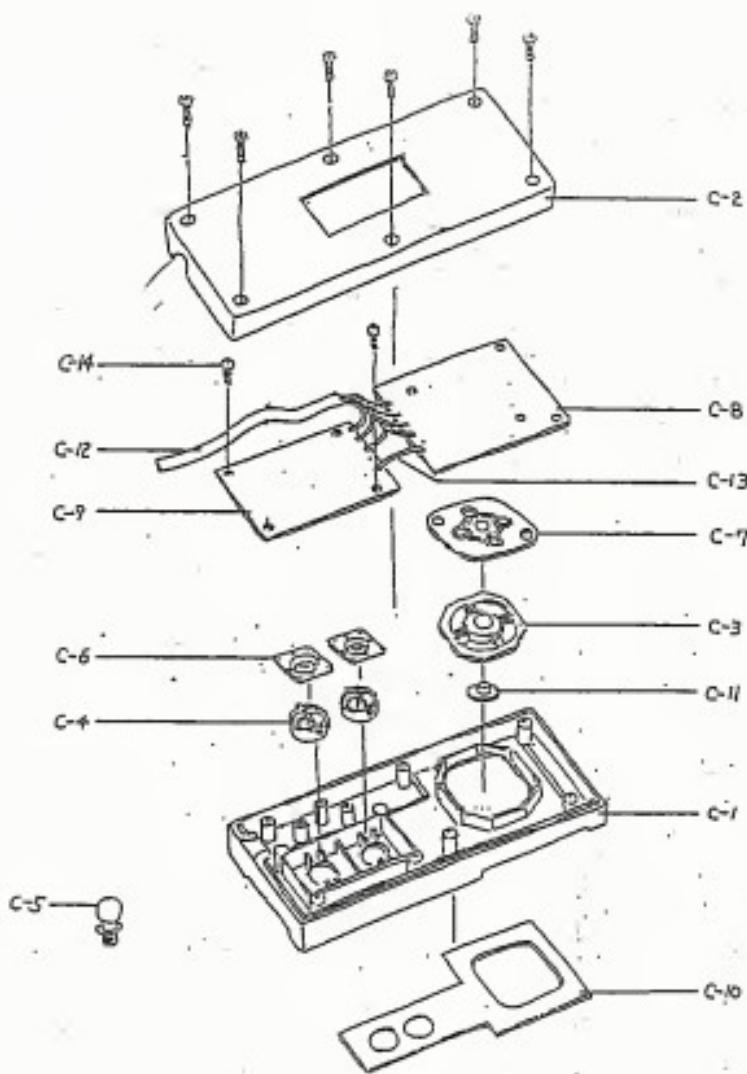
Description No.	Part No.	Description	Note	Q'ty
JV	271-0005	BEADS INDUCTOR FBA04VA600AB		1
JG	271-0005	BEADS INDUCTOR FBA04VA600AB		1
FB1	271-0005	BEADS INDUCTOR FBA04VA600AB		1
FB2	271-0005-1	BEADS INDUCTOR FBA04VA600AB		1
FB3	271-0005-1	BEADS INDUCTOR FBA04VA600AB		1
FB4	271-0005-1	BEADS INDUCTOR FBA04VA600AB		1
FB5	271-0005-1	BEADS INDUCTOR FBA04VA600AB		1
C1	150-0023	CAP E	10 μF 16 V U-TYPE	1
C2	150-0060	CAP CER	0.1 μF 16 V	1
C3	150-0060	CAP CER	0.1 μF 16 V	1
C4	150-0047	CAP E	100 μF 10 V U-TYPE	1
R5	479-0121	RES	120 Ω 1/6 W ± 5%	1
C6	150-0007	CAP E	4.7 μF 16 V U-TYPE	1
D7	481-3045 (481-0149)	DIODE	ISS133 (IS2473)	1
R8	479-0103	RES	10 KΩ 1/6 W ± 5%	1
R9	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
R10	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
C11	151-0060	CAP CER	0.1 μF 16 V	1
R12	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
R13	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
C14	151-0060	CAP CER	0.1 μF 16 V	1
R15	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
R16	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
C17	151-0060	CAP CER	0.1 μF 16 V	1
R18	479-0103	RES	10 KΩ 1/6 W ± 5%	1
R19	479-0103	RES	10 KΩ 1/6 W ± 5%	1
R20	479-0332	RES	3.3 KΩ 1/6 W ± 5%	1
R21	479-0102	RES	1 KΩ 1/6 W ± 5%	1
C22	151-0201	CAP CER	32 pF 50 V CH TYPE	1
R23	479-0222	RES	2.2 KΩ 1/6 W ± 5%	1
C24	151-0060	CAP CER	0.1 μF 16 V	1
C25	150-0047	CAP E	100 μF 10 V U-TYPE	1
L26	180-0049-1	PEAKING COIL	10 μH 02TYPE	1
R27	479-0730	RES	75 Ω 1/6 W ± 5%	1
C28	150-0047	CAP E	100 μF 10 V U-TYPE	1
R29	479-0122	RES	1.2 KΩ 1/6 W ± 5%	1
C30	150-0062	CAP E	47 μF 10 V U-TYPE	1
R31	479-0222	RES	2.2 KΩ 1/6 W ± 5%	1
C32	151-0060	CAP CER	0.1 μF 16 V	1
R33	479-0102	RES	1 KΩ 1/6 W ± 5%	1
L34	180-5032	PEAKING COIL	100 μH 02TYPE	1
C35	151-0190	CAP CER	12 pF 50 V CH TYPE	1
C36	151-0172	CAP CER	180 pF 50 V CH TYPE	1
R37	479-0102	RES	1 KΩ 1/6 W ± 5%	1
R38	479-0102	RES	1 KΩ 1/6 W ± 5%	1
L39	180-5033	PEAKING COIL	12 μH 02TYPE	1

Description No.	Part No.	Description	Note	Q'ty
C40	151-0159	CAP CER	100 pF 50 V CH TYPE	1
C41	151-0190	CAP CER	12 pF 50 V CH TYPE	1
L42	150-5032	PEAKING COIL	100 μ H 02TYPE	1
R43	479-0102	RES	1 K Ω 1/6 W \pm 5%	1
C44	151-0058	CAP CER	0.01 μ F 16 V	1
R45	479-0122	RES	2.2 K Ω 1/6 W \pm 5%	1
Q46	482-0261	XSTR	2SC1740 (R or Q)	1
R47	479-0103	RES	10 K Ω 1/6 W \pm 5%	1
C48	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C50	151-0058	CAP CER	0.01 μ F 16 V	1
D100	481-5045	DIODE	ISS133 (1S2473)	1
	(481-0149)			
R102	479-0472	RES	4.7 K Ω 1/6 W \pm 5%	1
R103	479-0472	RES	4.7 K Ω 1/6 W \pm 5%	1
C105	151-0060	CAP CER	0.1 μ F 16 V	1
C106	151-0060	CAP CER	0.1 μ F 16 V	1
C110	151-0060	CAP CER	0.1 μ F 16 V	1
R111	479-0472	RES	4.7 K Ω 1/6 W \pm 5%	1
C112	151-0060	CAP CER	0.1 μ F 16 V	1
C113	151-0060	CAP CER	0.1 μ F 16 V	1
R114	479-0331	RES	330 Ω 1/6 W \pm 5%	1
R115	479-0331	RES	330 Ω 1/6 W \pm 5%	1
R116	479-0331	RES	330 Ω 1/6 W \pm 5%	1
R117	479-0331	RES	330 Ω 1/6 W \pm 5%	1
C118	151-0060	CAP CER	0.1 μ F 16 V	1
C119	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C120	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C121	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C122	150-0062	CAP E	47 μ F 10 V U-TYPE	1
C123	150-0062	CAP E	47 μ F 10 V U-TYPE	1
C124	150-0062	CAP E	47 μ F 10 V U-TYPE	1
C125	151-0172	CAP CER	180 pF 50 V CH TYPE	1
R130	479-0104	RES	100 K Ω 1/6 W \pm 5%	1
C131	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C132	151-0060	CAP CER	0.1 μ F 16 V	1
C133	151-0060	CAP CER	0.1 μ F 16 V	1
C134	151-0060	CAP CER	0.1 μ F 16 V	1
C135	151-0060	CAP CER	0.1 μ F 16 V	1
C137	150-0023	CAP E	10 μ F 16 V U-TYPE	1
C138	151-0172	CAP CER	180 pF 50 V CH TYPE	1
C139	151-0018	CAP CER	150 pF 50 V	1
CP1	151-0060	CAP CER	0.1 μ F 16 V	1
CP2	151-0060	CAP CER	0.1 μ F 16 V	1
C140	151-5004	CAP TRIMMER	30 pF	1
C141	151-0160	CAP CER	10 pF 50 V CH TYPE	1
R142	479-0103	RES	10 K Ω 1/6 W \pm 5%	1
R143	479-0512	RES	5.1 K Ω 1/6 W \pm 5%	1
C144	151-0161	CAP CER	22 pF 50 V CH TYPE	1
R145	479-0201	RES	200 Ω 1/6 W \pm 5%	1
Q146	482-0270	XSTR	2SC1907	1
C147	151-0008	CAP CER	1000 pF 50 V	1
R148	479-0101	RES	100 Ω 1/6 W \pm 5%	1

Description No.	Part No.	Description	Note	Q'ty
C149	151-0202	CAP CER	39 PF 50 V CH TYPE	1
R150	479-0153	RES	15 KΩ L/6 W ± 5%	1
R151	479-0332	RES	3.3 KΩ L/6 W ± 5%	1
R152	479-0271	RES	270 Ω L/6 W ± 5%	1
Q153	482-0270	XSTR	2SC1907	1
L154	180-5012	PEAKING COIL	100 μH Q2 TYPE	1
C155	151-0060	CAP CER	0.1 μF 16 V	1
C156	151-0002	CAP CER	100 pF 50 V	1
C157	151-0002	CAP CER	100 pF 50 V	1
EM11	271-0007	EMI FILTER	2200 pF	1
EM12	271-0007	EMI FILTER	2200 pF	1
EM13	271-0007	EMI FILTER	2200 pF	1
EM14	271-0007	EMI FILTER	2200 pF	1
EM15	271-0007	EMI FILTER	2200 pF	1
EM16	271-0007	EMI FILTER	2200 pF	1
EM17	271-0006	EMI FILTER	270 pF	1
EM18	271-0007	EMI FILTER	2200 pF	1
EM19	271-0007	EMI FILTER	2200 pF	1
EM21	271-0007	EMI FILTER	2200 pF	1
EM22	271-0007	EMI FILTER	2200 pF	1
EM23	271-0007	EMI FILTER	2200 pF	1
EM24	271-0007	EMI FILTER	2200 pF	1
EM25	271-0007	EMI FILTER	2200 pF	1
EM26	271-0007	EMI FILTER	2200 pF	1
EM27	271-0006	EMI FILTER	270 pF	1
EM28	271-0007	EMI FILTER	2200 pF	1
EM29	271-0007	EMI FILTER	2200 pF	1
X1	230-5035	CRYSTAL	53.203424MHz ± 5 ppm	1
LED	390-5128	LEO	SLP-280U-E50 GREEN	1
IC1	315-0041	IC	Z80A CPU	1
IC2	NJP1-10052	IC	ROM CX2K1864P-20	1
IC3	315-0298	IC	RAM μ PD4168-20	1
	(315-0298-15)		(or μ PD4168-15)	1
IC4	315-5216 (315-5204)	IC	CUSTOM CHIP G/A FUJITSU (or NBC)	1
IC5	315-5124	IC	CUSTOM CHIP VDP	1
IC6	315-0298-15	IC	RAM μ PD4168-15	1
IC7	315-0298-15	IC	RAM μ PO4168-15	1
IC8	313-0092	IC	RBO 7805	1
IC9	313-5054	IC	ROB ENCOOER VT040	1
IC11	314-0062	IC	74LS74	1
IC12	314-0355	IC	74ALS174	1
IC13	314-0356	IC	74ALS175	1
IC14	314-0358	IC	74ALS74	1
CONN1	212-5106	OIN CONNECTOR 8P B-TYPE		1
CONN2	209-5020	CARD CONNECTOR 35P		1
CONN3	209-5023-01 (209-5023)	BOGE CONNECTOR 50P		1
CONN5	209-5017-01	MITSUMI (or BANDY) O-SUB CONNECTOR 9P		1
CONN6	209-5017-01	O-SUB CONNECTOR 9P		1
CONN7	212-5004	POWER JACK		1
POWER SW	309-5150	PUSH SWITCH		1
RESET SW	309-5031	BLADE SWITCH		1
PAUSE SW	309-5031	BLADE SWITCH		1

3. Control Pad

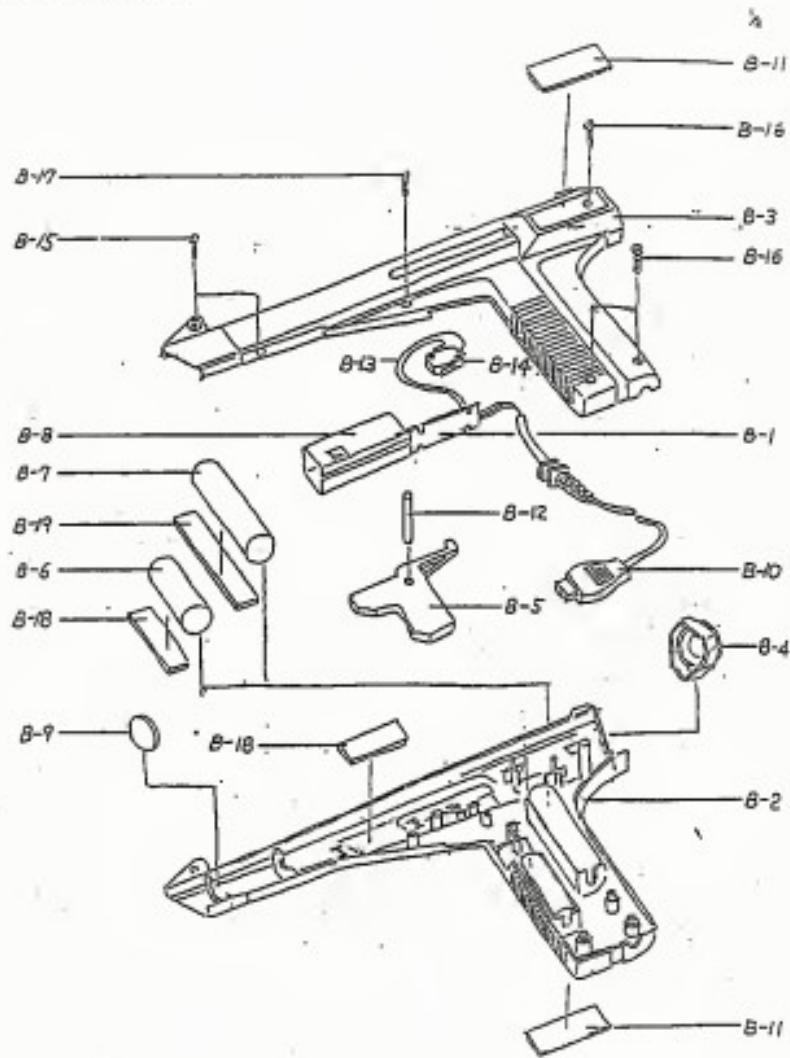
ASSY CONTROL PAD



Description No.	Part No.	Description	Note	Q'ty
C-1	253-6020	Top Case 3020		1
C-2	253-6021	Bottom Case 3020		1
C-3	253-6024	Pad 3020		1
C-4	253-6023	Button 3020		2
C-5	253-5071	Stick SJ-150		1
C-6	509-5059-1	Rubber Contact 1P SJ-151	W/Poly Bag (2 set)	2
C-7	509-5090-1	Rubber Contact 4P SJ-151		1
C-8	171-5193-3	PC Board 45 x 38 3020		1
C-9	171-5194-2	PC Board 51 x 31 3020		1
C-10	253-6022	Instruction Plate 3020		1
C-11	253-6032	Blind Cover 3020		1
C-12	600-5106	Assy Cable 9P L = 2in 3020		1
C-13	600-5137-1	Jumper Wire SJ-151		1
C-14	012-0208-1	Tap Set P# No.1 2 x 8		6

4. Light Phaser

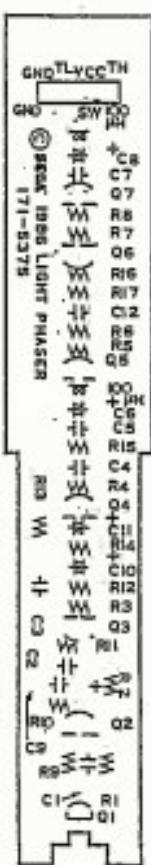
ASSY LIGHT PHASER.



610-0035

Description No.	Part No.	Description	Note	Q'ty
B-1	837-6068	PC Board Light Phaser		1
B-2	253-6027	Right Case LP		1
B-3	253-6028	Left Case LP		1
B-4	253-6029	Case Cover LP		1
B-5	253-6030	Trigger LP		1
B-6	250-5020	Weight A		1
B-7	250-5021	Weight B		1
B-8	250-5024	Shield Cover LP		1
B-9	380-5003	Lens LP		1
B-10	600-5299	Cord Assy LP		1
B-11	421-6396	Seal LP		2
B-12	123-5011	Shaft LP		1
B-13	600-5010-10	Cable Vinyl Single 1.5 mm/mm 0.8 x 16 Str.	Red	0.2 m
B-14	509-5151	Switch Micro Type V-151-3A5 or (AH71517)	Omron or Matsushita	1
B-15	629-0068	Tap Scr PH 2 x 6 Blk		2
B-16	629-0069	Tap Scr PH 2.6 x 10 Blk		3
B-17	629-0070	Tap Scr PH 2.6 x 8 Blk		1
B-18	601-5588	RUBBER CUSHION A		2
B-19	601-5589	RUBBER CUSHION B		1

LIGHT PHASER



LIGHT PHASER

SEGA MASTER SYSTEM

PARTS PRICE LIST

and

U.S.A.

SEGA® SEGA ENTERPRISES, LTD.

PARTS PRICE LIST FOR SEGA POWER SYSTH (R00)

P-1/1

PARTS NO.	PARTS NAME	FOB PRICE
400-5048Y	AC ADAPTER	\$767
271-0005	BEADUS INDUCTOR FBA04VA600A0	\$8
271-0005-1	BEADUS INDUCTOR FBA04VA600WB	\$7
810-0030	BUTTON CASE ASSY PB	\$319
253-6008	BUTTON PB	\$18
209-5020	CARD CONNECTOR 35P FBU35K-1	\$148
610-0180	CONTROL PAD ASSY	\$429
209-5017-01	D-SUB 9P ANGLE TYPE UC-0060#2	\$43
212-5100	DIN CONN 8P 5-TYPE UC-0059#2	\$51
481-0149	010DE 1S2473	\$4
481-5038	010DE 1SK-35-100A	\$10
209-5023	EDB6 CONNECTOR 50P FS84025S-4RL	\$127
271-0000	EHI FILTER STB271K0	\$12
271-0007	EHI FILTER STX222H0	\$12
315-5210	IC CUSTOM CHIP D/A	\$216
315-5124	IC CUSTOM CHIP YH2002	\$1,182
313-5087	IC CXA-1145P	\$342
HPR-10052	IC CXK3804P-20	\$38
313-0092	IC NA7805HC	\$48
315-0298-15	IC UPD4108C-15	\$422
315-0298	IC UPD4108C-20	\$417
HPR-11458	IC uPO23C10II FOR HS	\$645
HPR-11459	IC uPO23C10II FOR HS PLUS	\$634
HPR-11460	IC uPO23C10II FOR SS	\$630
315-0041	IC Z80A	\$172
601-6057	INDIVIDUAL BOX BS FIVE(3080)	\$170
671-0116	INDIVIDUAL BOX HS FIVE (3095)	\$170
671-0114	INDIVIDUAL BOX HS PLUS FIVE (3090)	\$185
671-0115	INDIVIDUAL BOX SS FIVE (3091)	\$195
390-5128	LED SLP-280F-5IU	\$14
253-5071	MINI STICK SJ150	\$18
212-5004	PIN PLUG FOR DC/HP UC-0056#2	\$26
253-6013	POWER BUTTON PB	\$15
509-5150	PUSH SWITCH SPQ-01H	\$87
610-0130	RGB BOX FRANCE	\$800
509-5207	TACT SWITCH SK60AA	\$17
610-0158	TOP CASE ASSY PBVA	\$630
482-0270	TR 2SC1907	\$25
230-0040-1	XTAL 10.738835MHz+-30ppm	\$79

PARTS NO.	PARTS NAME	FBB PRICE
400-5048Y	AC ADAPTER	\$757
400-5056	AC ADAPTER (BK)	\$1,580
400-5057	AC ADAPTER (BK)	\$794
271-0005	BEADS INDUCTOR FBA04VAB00AB	\$6
271-0005-1	BEADS INDUCTOR FBA04VAB00CVD	\$7
610-0030	BOTTOM CASE ASSY PD	\$318
253-8006	BUTTON PB	\$18
151-5004	CAP CER TRIMMER 30pF	\$18
209-5020	CARD CONNECTOR 35P PRE35R-1	\$148
610-0180	CONTROL PAD ASSY	\$429
209-5017-01	D-SUB OF AEGLO TYPE MC-0080m2	\$43
212-5106	DIN CONN SF D-TYPE UC-0050#2	\$51
481-0149	DIODE 1S2473	\$4
481-5038	DIODE 1SK-35-100A	\$10
481-5045	DIODE ISS133	\$3
209-5023	EDGE CONNECTOR 50P PSD4B25S-4R1	\$127
271-0006	EMI FILTER STB271KD	\$12
271-0007	EMI FILTER STX222MB	\$12
314-0355	IC 74ALS174	\$95
314-0358	IC 74ALS175	\$95
314-0358	IC 74ALS74	\$58
314-0361	IC 74HC132	\$17
315-5219	IC CUSTOM CHIP G/A	\$216
315-5124	IC CUSTOM CHIP TM2B02	\$1,182
313-5057	IC CXA-1145P	\$342
HPR-10883	IC CXK3804P-20	\$247
313-0092	IC KAT805WC	\$48
315-0208-15	IC UPD4108C-15	\$422
315-0298	IC UPD4108C-20	\$417
HPR-11458	IC uPB23C1011 FOR HS (3091)	\$645
HPR-11459	IC uPB23C1011 FOR HS PLUS (3090)	\$634
HPR-11460	IC uPB23C1011 FOR SS (3095)	\$630
315-0041	IC Z80A	\$172
801-6057	INDIVIDUAL BOX BS FIVE(3080)	\$170
671-0115	INDIVIDUAL BOX HS FIVE(3095)	\$170
671-0114	INDIVIDUAL BOX HS PLUS FIVE(3090)	\$185
671-0115	INDIVIDUAL BOX SS FIVE(3091)	\$195
390-5128	LED SLP-280F-51U	\$14
253-5071	MINI STICK SJ150	\$18
180-5032	PEAKING COIL 100uH	\$10
180-5033	PEAKING COIL 12uH	\$10
212-5004	PIN PLUG FOR DC/RP UC-0050#2	\$26
253-8013	POWER BUTTON PB	\$15
509-5150	PUSH SWITCH SPQ-01N	\$87
200-5088	RF MODULATOR VV3421	\$685
200-5020	RF SWITCH BOX	\$191
313-5054	RGB ENCODER V-7040	\$401
509-5207	TACT SWITCH SKEVA	\$17
610-0158	TOP CASE ASSY PBVA	\$630
482-0270	TR 2SC1907	\$25
800-5040-02	TV EXTENSION CABLE 2G2V	\$135
230-5035	XTAL 53,203424Hz	\$175

PARTS PRICE LIST FOR SEGA POWER SYSTH (PAL-B)

P-1/1

PARTS NO.	PARTS NAME	FOB PRICE
400-5048Y	AC ADAPTER	\$767
400-5050	AC ADAPTER (AUSTRALIA)	\$767
271-0005	SEADS INDUCTOR FDA04VA000A8	\$6
271-0005-1	SEADS INDUCTOR FDA04VA000V8	\$7
610-0030	SUTTON CASE ASSY PD	\$319
253-6005	SUTTON PB	\$18
151-5004	CAP CER TRIHED 30pF	\$18
209-5029	CARD CONNECTOR 35P FEE35R-1	\$148
610-0180	CONTROL PAD ASSY	\$129
209-5017-01	D-SUB 9P ANGLE TYPE UC-0009#2	\$43
212-5108	DIN CONN 8P D-TYPE UC-0059#2	\$51
481-0149	Q100E IS2473	\$4
481-5035	Q100E IS8-35-100A	\$10
481-5045	Q100E ISS133	\$3
209-5023	EDGE CONNECTOR 50P PSB4025S-4H	\$127
271-0000	EMI FILTER STD271KD	\$12
271-0007	EMI FILTER STX222HD	\$12
314-0355	IC 74ALS174	\$95
314-0356	IC 74ALS175	\$95
314-0358	IC 74ALS74	\$58
314-0361	IC 74HC132	\$77
315-5216	IC CUSTOM CHIP G/A	\$210
315-5124	IC CUSTOM CHIP TH2002	\$1,152
313-5067	IC CXA-1146P	\$342
HPR-10883	IC CX3804P-20	\$247
313-0092	IC HA7805UC	\$48
315-0295-15	IC HPB4188C-15	\$422
315-0298	IC UFD41U8C-20	\$417
HPR-11158	IC uPD23C1011 FOR HS (3081)	\$645
HPR-111450	IC uPD23C1011 FOR HS PLUS (3090)	\$634
HPR-111460	IC uPD23C1011 FOR SS (3085)	\$630
315-0041	IC Z80A	\$172
601-6057	INDIVIDUAL BOX HS FIVE (3080)	\$170
671-0118	INDIVIDUAL BOX HS FIVE (3085)	\$170
671-0114	INDIVIDUAL BOX HS PLUS FIVE (3090)	\$185
671-0115	INDIVIDUAL BOX SS FIVE (3091)	\$195
390-5128	LED SLF-280F-51H	\$14
253-5071	HDMI STICK SJ150	\$18
180-5032	PEAKING COIL 100uH	\$10
180-5033	PEAKING COIL 12uH	\$10
212-5004	PIN PLUG FOR DC/HP UC-0050#2	\$26
253-5013	POWER SUTTON PB	\$15
509-5150	PUSH SWITCH SPG-01H	\$87
200-5109	RF MODULATOR VV3402	\$767
200-5088	RF MODULATOR VV3421 (AUSTRALIA)	\$767
200-5020	RF SWITCH BOX	\$191
313-5054	RGB ENCODER V-7040	\$401
509-5207	TACT SWITCH SK6VAA	\$17
610-0158	TOP CASE ASSY PBVA	\$830
482-0270	TR 2SC1907	\$25
600-5040-02	TV EXTENSION CABLE 202V	\$135
230-5035	Xtal 53.203424Hz	\$170

PARTS PRICE LIST FOR SEGA POWER SYSTM (PAL-D)

P-1/I

PARTS NO.	PARTS NAME	FOB PRICE
400-50481	AC ADAPTER	\$767
271-0005	SEADS INDUCTOR FBA04VA500A8	\$6
271-0005-1	SEADS INDUCTOR FBA04VA500V8	\$7
610-0030	OPTION CASE ASSY PB	\$319
253-0008	BUTTON PB	\$15
15-5004	CAP CER TRIMMER 30pF	\$16
209-5020	CARO CONNECTOR 35P PEX35E-1	\$145
810-0180	CONTROL PAD ASSY	\$429
209-5017-01	O-SIR WP AROLE TYPE UC-0050#2	\$43
212-5108	DIN CONN 8P 8-TYPE UC-0059#2	\$51
431-0149	DISKE 132473	\$4
411-5038	O 096 131-35-100A	\$10
431-5045	O 096 131133	\$3
209-5023	E05E CONNECTOR 50P PSS4025S-4B1	\$127
271-0008	EMI FILTER STB271E8	\$12
271-0007	EMI FILTER STB222H8	\$12
314-0355	IC 74ALS174	\$95
314-0355	IC 74ALS176	\$95
314-0358	IC 74ALS74	\$93
314-0361	IC 74HC132	\$77
315-5218	IC CUSTOM CHIP G/A	\$218
315-5124	IC CUSTOM CHIP TH2502	\$1,182
313-5087	IC CXA-14GP	\$342
HPS-10553	IC CX83804P-20	\$247
313-0092	IC HA76559C	\$45
315-0298-15	IC UP04108C-15	\$422
315-0298	IC UP04108C-20	\$417
HPS-11458	IC uPD23C1011 FOR HS (3091)	\$645
HPS-11459	IC uPD23C1011 FOR HS PLUS (3090)	\$634
HPS-11400	IC uPD23C1011 FOR SS (3095)	\$630
315-0041	IC Z50A	\$172
601-5057	INOVISUAL BOX BS FIVE(3080)	\$170
271-0118	INOVISUAL BOX HS FIVE(3095)	\$170
271-0114	INOVISUAL BOX HS PLUS FIVE(3090)	\$185
271-0115	INOVISUAL BOX SS FIVE(3091)	\$195
300-5128	LEO SLP-280P-51U	\$14
253-5071	MINI STICK SJ150	\$18
140-5032	PEAKING COIL 100mH	\$10
140-5033	PEAKING COIL 12mH	\$10
212-5004	PIN PLUG FOR DC/HF UC-0058#2	\$28
253-6013	POWER SWITCH PB	\$15
500-5160	PUSH SWITCH SPD-01H	\$67
200-5088	RF MODULATOR UE3822	\$792
200-5020	RF SWITCH BOX	\$191
313-5054	RGS ENCLOSURE V-7040	\$401
509-5207	TACT SWITCH SK6VAA	\$17
610-0158	TOF CASE ASSY PEVA	\$830
482-0270	TR 25C1907	\$25
300-5046-02	TV EXTENSION CABLE 2C2V	\$135
250-5035	XTAL 53.203424MHz	\$170

PARTS PRICE LIST FOR SEGA LIGHT Phaser

P-1/1

PARTS NO.	PARTS NAME	FOG PRICE
253-6029	CASE COVER LP	\$17
600-5299	CORD ASSY LP	\$191
253-6026	LEFT CASE LP	\$92
389-5003	LENS LP	\$29
637-6066	PC BOARD LIGHT Phaser	\$1,633
253-6027	RIGHT CASE LP	\$92
250-5024	SHIELD COVER LP	\$27
253-6030	TRIGGER LP	\$17
250-5029	WEIGHT A	\$36
250-5021	WEIGHT B	\$41
601-5610-50	INDIVIDUAL BOX LP FIVE	\$95